

CERTIFICATE

Hamza Abid

has completed the 3.0 ECTS PhD course

"Advanced Energy System Analysis on the EnergyPLAN Model"

Spring, 2020

Description: The PhD course gave an introduction to advanced energy system analysis using the EnergyPLAN computer model. The course started with an introduction to the model (installation, using, constructing new data sets) and proceeded to focus on the use of the model in:

- sustainable cities and communities
- technical analyses of large-scale integration of wind.
- analyses of exchange with external electricity markets
- combinations of different renewable energy technologies.
- designing flexible energy systems using flexible technologies such as heat pumps, hydrogen storage, pumped storage etc.
- district heating systems versus individual houses and zero energy buildings
- designing energy systems based on multiple criteria

Course responsible: Professor Henrik Lund

Lecturers: Poul Alberg Østergaard, Henrik Lund, Jakob Zinck Thellufsen and & Brian Vad Mathiesen

A handwritten signature in blue ink, appearing to read "Mads Græsbøll Christensen".

Mads Græsbøll Christensen
PhD Study Director

A handwritten signature in blue ink, appearing to read "Maria Bredvig".

Maria Bredvig
/Faculties of Engineering,
Medicine and Tech